



SG71090

**24-Port 10/100/1000Base
Modular Pick-a-Port Switch
with Management &
100/1000Base SFP support**

Installation Guide

v2.0

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Marking by the  symbol indicates compliance of this equipment to the EMC directive of the European Community. Such marking is indicative that this equipment meets or exceeds the following technical standards:

EMC Class A

EN55022:2006/A1:2007

EN61000-3-2:2006

EN61000-3-3:1995/A1:2001/A2:2005 Class A

EN 55024:1998/A1:2001/A2:2003

IEC 61000-4-2:2001

IEC 61000-4-3:2002/A1:2002

IEC 61000-4-4:2004

IEC 61000-4-5:2001

IEC 61000-4-6:2003

IEC 61000-4-8:2001

IEC 61000-4-11:2001

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1. Introduction

The SG71090 24-port Switch is a standard L2 switch that meets all IEEE 802.3/u/x/z Gigabit, Fast Ethernet specifications. The switch provides three 8-port modular slots, each capable of accommodating one 8-port module. A variety of modules are available, including 10/100/1000M copper, 100/1000M fiber optic SFP, Copper and fiber optic SFP combination, and Fast Ethernet fiber optic modules. Different modules can be installed to create flexibility within your network. The SG71090 automatically detects the types of modules installed and configures the modules automatically. With a variety of modules and flexibility of installation, the SG71090 can meet most network requirements.

The SG71090 supports Telnet CLI, Web GUI, SNMP and console management for switch stack management. The network administrator can log into the switch to monitor and configure port operating mode, Quality of Service, and powerful L2 switching functions such as VLAN, IGMP, RSTP, etc. In addition, the switch also features powerful security functions such as SSH, HTTPS, IEEE 802.1x & MAC-based authentication, and ACL control to make them suitable for office core applications.

The following image shows the SG71090 without modules installed.



Model Definition

Model	Power Input	Power connector
SG71090	AC 100 ~ 240V	IEC320
SG71090-DC	DC +48V	Screw terminals

1.1 Features

- Fully modular design with three 8-port module slots supporting Gigabit and Fast Ethernet
- A variety of optional modules are available including Gigabit copper, Gigabit fiber, Gigabit mix of copper and fiber, and Fast Ethernet fiber
- The copper ports support 10/100/1000Mbps auto-negotiation and auto-MDI/MDI-X detection
- The SFP ports can support both 100Mbps and Gigabit Ethernet SFP fiber optic SFP modules
- Support connectivity for Fast Ethernet fiber, 100BASE-FX with SC/ST/BiDi/ transceivers
- Flexible installation with any combination of different modules
- Provides Gigabit full wire speed forwarding
- Supports power saving mode when port link is down or for different RJ-45 cable lengths
- Supports 802.3x flow control for full-duplex and backpressure for half-duplex
- Supports console and in-band Web/Telnet/SSH/HTTPS/SNMP interfaces for switch management
- Supports configurable maximum frame length from 1518 up to 9600 jumbo frame
- Supports port-based ,802.1Q tag-based VLAN and private VLAN
- Provides QoS function
- Supports port bandwidth control for ingress and egress
- Supports packets storm control function for broadcast, unicast and multicast
- Supports MAC address learning, ageing and filtering control
- Supports LACP port link aggregation
- Supports IEEE 802.1d, 802.1w, 802.1s STP (Spanning Tree Protocol), RSTP, MSTP
- Provides port mirroring function
- Provides IP Multicasting with IGMP Snooping function
- Supports DHCP client for dynamic IP configuration
- Supports 802.1X port-based radius authentication for access security
- Provides ACL filtering function
- Provides port data rate control function
- Supports SNTP Client
- Supports LLDP
- Provides SNMP v1/v2C/v3 agent and event trap function
- Supports Configuration download and upload
- 19” rack mountable
- Both AC powered and DC powered models are available

Management Features:

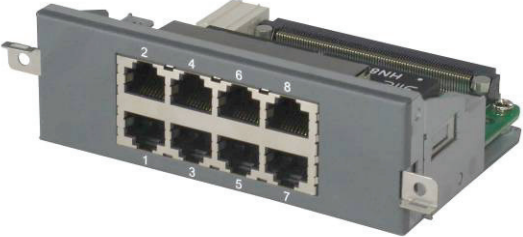
- Port Control
 - Port Speed/Duplex Mode/Flow Control/Power saving configuration
 - Port frame size control (Jumbo frame support)
- QoS
 - Traffic Classification up to 4 active priorities
 - Port QoS configuration
 - QoS Control List for policy rules
 - Port bandwidth control for ingress and egress
 - Storm Control for UC, MC and BC
- Layer2
 - Auto MAC address learning and ageing
 - Static MAC address filtering
 - Port-based and 802.1Q Tag-based VLAN
 - Link Aggregation - LACP
 - Rapid Spanning tree - RSTP
 - Port Mirroring
 - IGMP snooping
 - DHCP client for IP configuration
- Security features
 - Access Control List for L2/L3 protocol filtering, ingress rate limit, port copy
 - Port Access Control based on IEEE 802.1X
- Management
 - Web management
 - Console CLI
 - Telnet CLI
 - Software Download via Web
 - SNMP Client
 - SNMP v1/v2c Agent
 - SSH v2 & HTTPS
 - Restore to default configuration
 - Configuration download and upload
 - System syslog
- SNMP MIBs

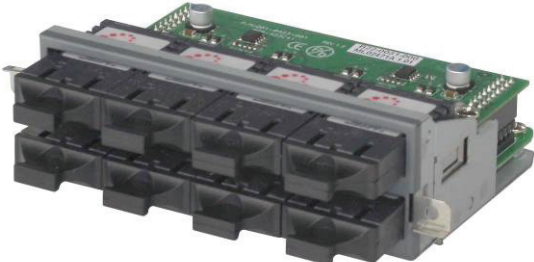
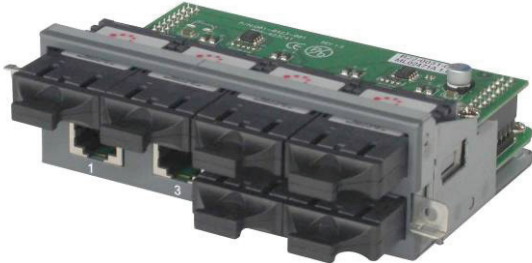
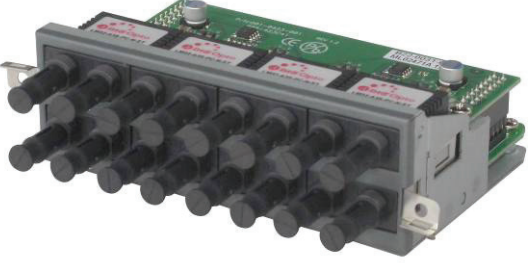
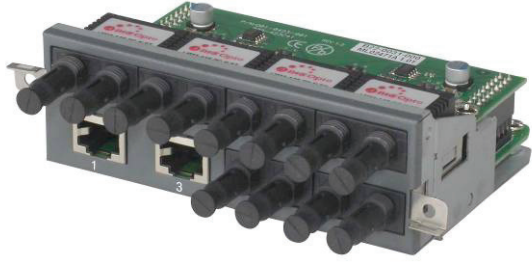
1.2 Product Panels

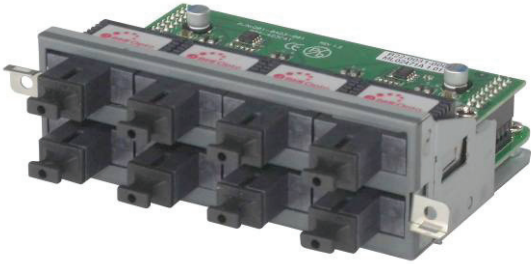
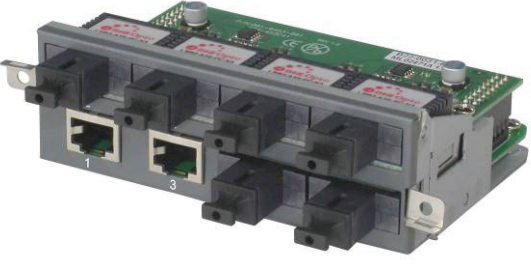
The following figure illustrates the front panel and rear panel of the SG71090:

Model	Front Panel	Rear Panel (Power Input)
SG71090		
SG71090-DC		

1.3 Optional Modules

Module Part No.	Image	Specifications
SG71890		● 8 10/100/1000 copper ports ● 8 RJ-45 jacks
SG71896		● 8-port 100/1000 SFP slots ● Supports standard 100M or 1000M fiber optic SFP modules

SG71896-44		● 4 10/100/1000 copper ports with RJ-45 connectors ● 4 dual-speed SFP slots support standard 100M or 1000M fiber optic SFP modules
SG71894 SG71895		● 8 fixed 100M fiber ports ● 8 duplex SC connectors ● Options: SG71894: MMF 2km SG71895: SMF 20km
SG71894-26 SG71895-26		● 6 fixed 100M fiber ports with 6 duplex SC connectors ● 2 10/100/1000 copper ports with RJ-45 connectors ● Fiber options: SG71894-26: MMF 2km SG71895-26: SMF 20km
SG71893		● 8 fixed 100M fiber ports ● 8 duplex ST connectors ● MMF 2km
SG71893-26		● 6 fixed 100M fiber ports with 6 duplex ST connectors ● 2 10/100/1000 copper ports with RJ-45 connectors

SG71895-SFA SG71895-SFB	 A photograph of the SG71895-SFA/SFB module. It is a green printed circuit board (PCB) with a grey metal housing. The front panel features eight black SC fiber optic connectors arranged in two rows of four. The top of the board has various electronic components, including resistors and integrated circuits.	● 8 fixed 100M fiber ports with SC connectors ● Full-Duplex Bi-directional communication over a single-fiber ● Options: SG71895-SFA: Tx: 1310nm, Rx: 1550nm SG71895-SFB: Tx: 1550nm, Rx: 1310nm ● SMF 20km
SG71895-26SFA SG71895-26SFB	 A photograph of the SG71895-26SFA/SFB module. It is a green PCB with a grey metal housing. The front panel features two RJ-45 copper ports (labeled 1 and 3) and six SC fiber optic connectors. The top of the board has electronic components and a label with technical specifications.	● 6 fixed 100M fiber ports with SC connectors ● 2 10/100/1000 copper ports with RJ-45 connectors ● Full-Duplex Bi-directional communication over a single-fiber ● Options: SG71895-26SFA: Tx: 1310nm, Rx: 1550nm SG71895-26SFB: Tx: 1550nm, Rx: 1310nm ● SMF 20km

1.3.1 Optional Module Table

Module Part No.	10/100/1000M Copper ports	100/1000M pluggable SFP	Fixed 100M Fiber
SG71890	8 RJ-45		
SG71896		8 SFP	
SG71896-44	4 RJ-45	4 SFP	
SG71893			8 ST for MMF 2km
SG71894			8 SC for MMF 2km
SG71895			8 SC for SMF 20km
SG71895-SFA SG71895-SFB			8 Bi-Di SC for single SMF 20km
SG71895-26	2 RJ-45		6 SC for SMF 20km
SG71894-26	2 RJ-45		6 SC for MMF 2km
SG71893-26	2 RJ-45		6 ST for MMF 2km
SG71895-26SFA SG71895-26SFB	2 RJ-45		6 Bi-Di SC for single SMF 20km

1.4 LED Indicators

LED	Function
POWER	Power status
Mngt	Management status
1000M	Port speed 1000Mbps status
Link/Act.	Port link and activity status (Port 1 – Port 24)

1.5 Specifications

10/100/1000 Copper Ports

Compliance	IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3u 1000Base-T
Connectors	Shielded RJ-45 connectors
Pin assignments	Auto MDI/MDI-X detection
Configuration	Auto-negotiation or software control
Transmission rate	10Mbps, 100Mbps, 1000Mbps
Duplex support	Full/Half duplex
Network cable	Cat.5 UTP

Dual-speed SFP Slots

Compliance	IEEE 802.3z 1000BASE-SX/LX (mini-GBIC) IEEE 802.3u 100BASE-FX
Connectors	SFP slot supports 100M and 1000M fiber optic SFP modules
Configuration options	Auto-negotiation 1000Mbps Full duplex Forced 100Mbps Full duplex (Software configurable)
Network cables	MMF 50/125 μ m 60/125 μ m, SMF 9/125 μ m
Eye safety	IEC 825 compliant

Fixed 100M Fiber Ports

Compliance	IEEE 802.3u 100BASE-FX
Connector options	Duplex SC for multimode fiber Duplex SC for single mode fiber Duplex ST for multimode fiber Bi-Di SC for single SM fiber
Configuration	100Mbps, full duplex
Network cables	MMF 50/125 μ m 60/125 μ m, SMF 9/125 μ m
Eye safety	IEC 825 compliant

Console Port

Interface	RS-232, DTE type
Connector	9-pin D-sub

Switch Functions

MAC Addresses Table	8K entries
Forwarding & filtering	Non-blocking, full wire speed
Switching technology	Store and forward
Maximum packet length	9600 bytes (Jumbo frame support)
Flow control	IEEE 802.3x pause frame base for full duplex operation Back pressure for half duplex operation
VLAN function	Port-based VLAN and IEEE 802.1Q Tag-based VLAN
VLAN support	4096 VLANs (IEEE 802.1Q)
Aggregation	LACP Port link aggregation (port trunking)

QoS function	Ethernet type, IP-based, DSCP, TOS-based, VID-based, VLAN Tag-based packet classification Port rate control, storm control
Port Mirroring	Mirror received frames to a sniffer port

AC Power Input (SG71090)

Interface	IEC320 receptacle
Operating Input Voltages	100 ~ 240VAC, 50/60Hz, 1.7A
Power Consumption	40W max.

DC Power Input (sg71090-DC)

Interfaces	Screw-type terminal block
Operating Input Voltages	+40 ~ +72VDC
Power Consumption	40W max.

DC Power Output

Operating Output Voltage	+5VDC, 13A
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Mechanical

Dimension (base)	17.44 x 9.65 x 1.69 Inches (W x D x H) (443 x 245 x 43 mm)
Housing	Enclosed metal
Mounting	Desktop mounting, 19" rack mounting

Environmental

Operating Temperature	Typical -5°C ~ +50°C
Storage Temperature	-25°C ~ +85°C
Relative Humidity	10% ~ 90% non-condensing

Electrical Approvals

FCC	Part 15 rule Class A
CE	EMC, CISPR22 Class A
Safety	LVD, IEC60950-1

2. Installation

2.1 Unpacking

The product package contains:

- SG71090
- One AC power cord (with SG71090)
- One 19" rack mounting kit

2.2 Safety Precautions

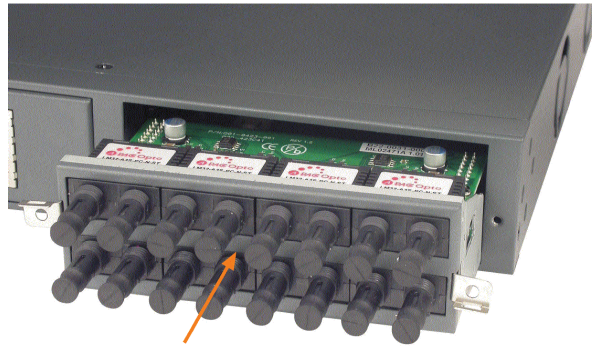
To reduce the risk of bodily injury, electrical shock, fire and damage to the product, observe the following precautions.

- Do not service any product except as explained in your system documentation.
- Opening or removing covers may expose you to electrical shock.
- Only a trained service technician should service components inside the device.
- If any of the following conditions occur, unplug the product from the electrical outlet and replace the part or contact VERSITRON:
 - The power cable, extension cable, or plug is damaged.
 - An object has fallen into the product.
 - The product has been exposed to water.
 - The product has been dropped or damaged.
 - The product does not operate correctly when you follow the operating instructions.
- Do not push any objects into the openings of your system. Doing so can cause fire or electric shock by shorting out interior components.
- Operate the product only from the type of external power source indicated on the electrical ratings label. If you are not sure of the type of power source required, contact VERSITRON or local power company.

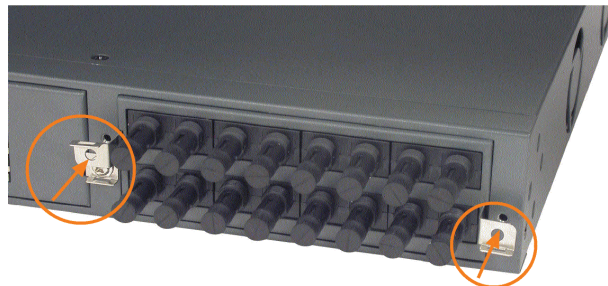
2.3 Installing Modules

The steps to install a module are as follows:

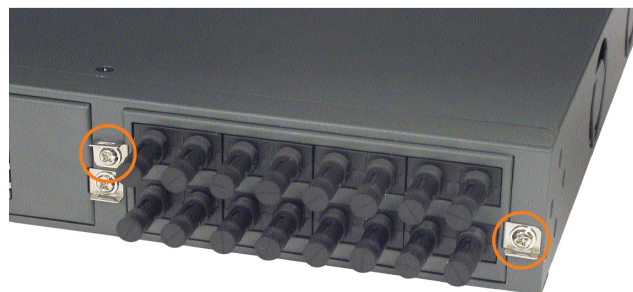
1. Unscrew the screws and remove the cover of the module slot. (Do not discard the screws.)
2. Insert the module into the slot until it is seated into the internal slot connector properly.



3. Push in the screw tabs and install the screws



4. Tighten the screws to secure the module to the switch chassis.



2.4 Removing the Modules

The steps to remove an installed module are as follows:



1. Remove the screws securing the module to the switch chassis:



2. Slide out the screw tabs:



3. Use the screw tabs as handles to slide the module out from the internal slot connector:



4. Remove the module from the slot.

2.5 Mounting the SG71090

Desktop Mounting

The SG71090 can be mounted on a desktop or shelf. Make sure that there is proper heat dissipation from and adequate ventilation around the device. Do not place heavy objects on the device.

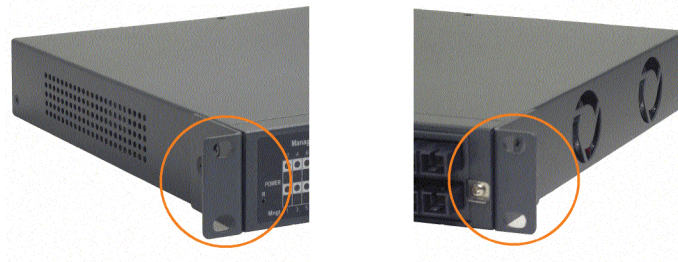


Rack Mounting

Two 19-inch rack mounting brackets are supplied for 19-inch rack mounting.

The steps to mount the SG71090 onto a 19-inch rack are:

1. Turn the power to the switch off.
2. Install two brackets with supplied screws onto the switch as shown below:



SG71090 with rack mounting brackets installed

2. Mount the SG71090 securely onto 19-inch rack with rack screws (not provided):



3. Apply power to the switch.

2.6 Applying AC Power – SG71090

1. Connect the AC power cord to the SG71090 before plugging it into the AC power outlet.
2. Connect the SC power cord to the AC power outlet.



SG71090 AC Power Connector

AC power input specifications

Connector: IEC320 type

Power Rating: 100 ~ 240VAC, 50/60Hz

Voltage Range: 90 ~ 264VAC

Frequency: 47 ~ 63 Hz

Power Consumption: 40W max.

2.7 Applying DC Power – SG71090-DC

The SG71090-DC power connector is shown below:



SG71090-DC Power Connector

DC power input specifications

Receptacle: Screw-type terminal block

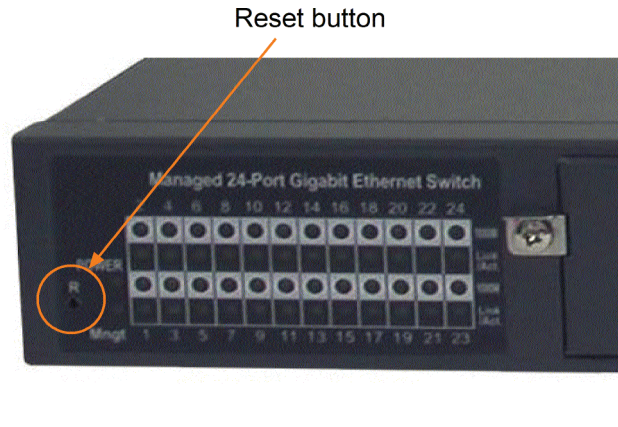
Operating Voltages: +40 ~ +72VDC

Power Consumption: 40W max.

Contacts

+	VDC+ input
-	VDC- input
⏏	Ground

2.8 Reset Button



The reset button is used to perform a reset of the switch. It can be used for diagnostic purpose or if the network performance has an issue. The button can also be used to restore the software configuration settings to factory default values. The operations are as follows:

Operation	Function
Press the button during system boot-up and release it after boot-up. The boot-up takes about 17 seconds and ends with LED diagnostics.	Restore factory default settings
Press the button and release during switch operation	Re-boot the switch unit

2.9 Making UTP Connections

The 10/100/1000 RJ-45 copper ports support the following connection types and distances:

Network Cables

10BASE-T: 2-pair UTP Cat. 3, 4, 5, EIA/TIA-568B 100-ohm

100BASE-TX: 2-pair UTP Cat. 5, EIA/TIA-568B 100-ohm

1000BASE-T: 4-pair UTP Cat. 5 or higher (Cat.5e is recommended), EIA/TIA-568B 100-ohm

Link distance: Up to 100 meters

Auto MDI/MDI-X Function

This function allows the port to auto-detect the twisted-pair signals and adapts itself to form a valid MDI to MDI-X connection with the remote connected device automatically. No matter a straight through cable or crossover cable are connected, the ports can sense the receiving pair automatically and configure themselves to match the rule for MDI to MDI-X connection. It simplifies the cable installation.

Auto-negotiation Function

The ports are featured with auto-negotiation function and full capability to support connection to any Ethernet devices. The port performs a negotiation process for the speed and duplex configuration with the connected device automatically each time a link is being established. If the connected device is also auto-negotiation capable, both devices will configure to the best performance option after negotiation process. If the connected device is incapable in auto-negotiation, the switch will sense the speed and use half duplex for the connection.

Port Configuration Management

For making proper connection to an auto-negotiation INCAPABLE device, it is suggested to use the port control function via the software management to set forced mode and specify speed and duplex mode which match the configuration used by the connected device.

2.10 Making Fiber Optic SFP Connections

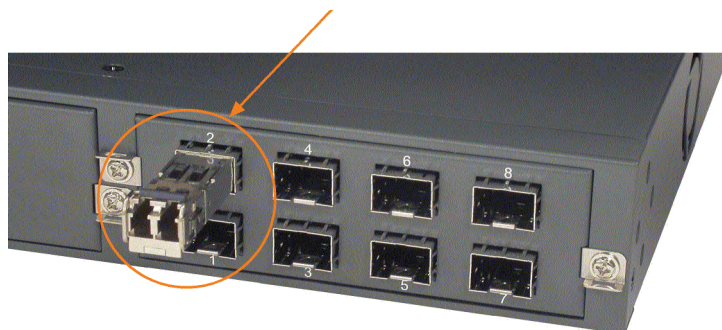
The dual-speed SFP slot must be populated with a fiber optic SFP module to make fiber connections. The fiber optic SFP modules are sold separately. Please refer to Appendix A for a list of available VERSITRON SFP modules.

The SFP slots can be populated with either 100Base or 1000Base, multi-mode or single-mode fiber optic SFP modules. Therefore it is important to match the fiber type, communication speed, and wavelength of the device connected on the other end of the fiber. If these criteria do not match, the SG71090 and the device on the other end of the fiber will not communicate.

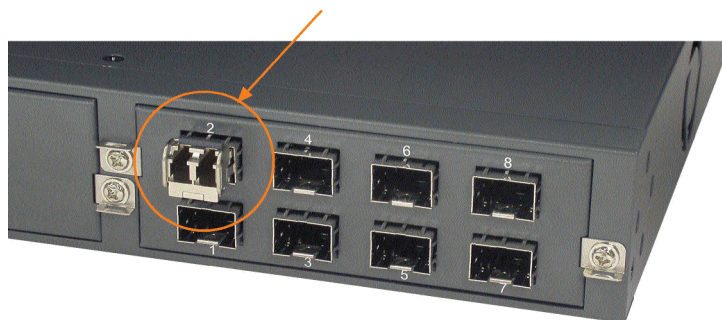
Installing a fiber optic SFP Module

To install an SFP module, the steps are as follows:

1. Turn off the power to the switch.
2. Insert the SFP module into an available SFP slot. Normally, a bail is provided with the module. Hold the bail and insert the module

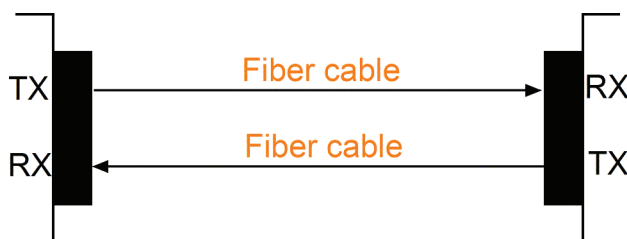


3. Push the module into the slot until it is seated securely in the slot and then place the bail in lock position.



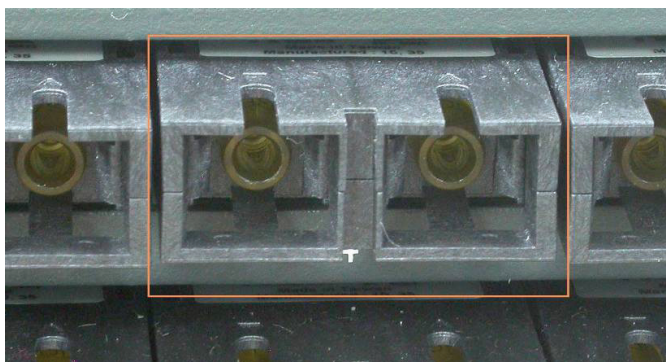
Connecting Fiber Cables

LC connectors are commonly equipped on most SFP. Identify the TX and RX connector before making the cable connection. Plug in the cables as shown below. Make sure the RX-to-TX connection rule is followed between two ends of the connected cable.



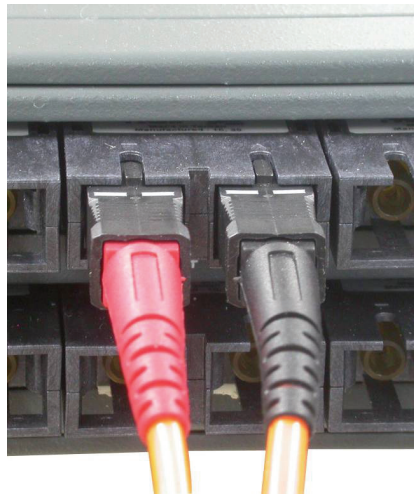
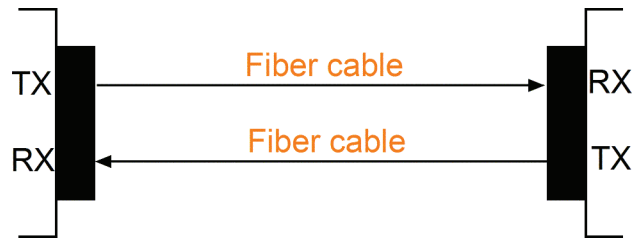
2.11 Making Fixed Duplex Fiber Connections

The following figure illustrates an example of a fixed duplex fiber port with duplex SC connectors:



A module with fixed duplex ST connectors is also available.

Identify the TX and RX connector before making the cable connection. Plug in the cables as shown below. Make sure the RX-to-TX connection rule is followed between two ends of the connected cable.

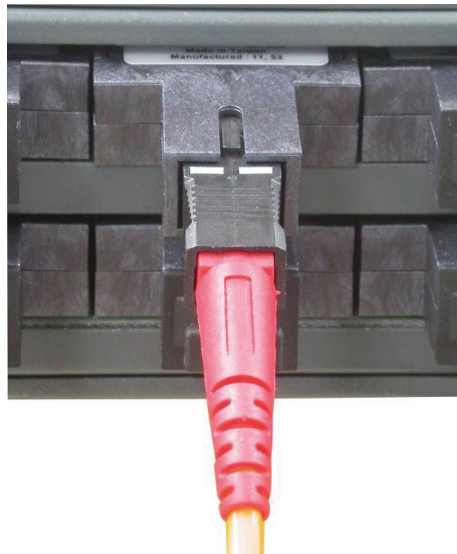
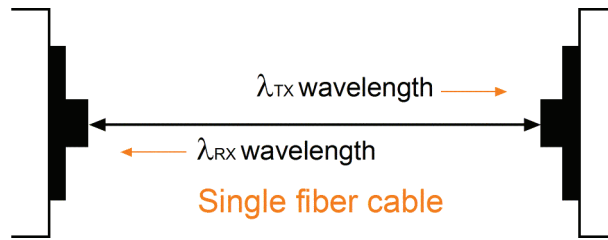


2.12 Making Fixed Bi-Di (Bi-Directional) Fiber Connections

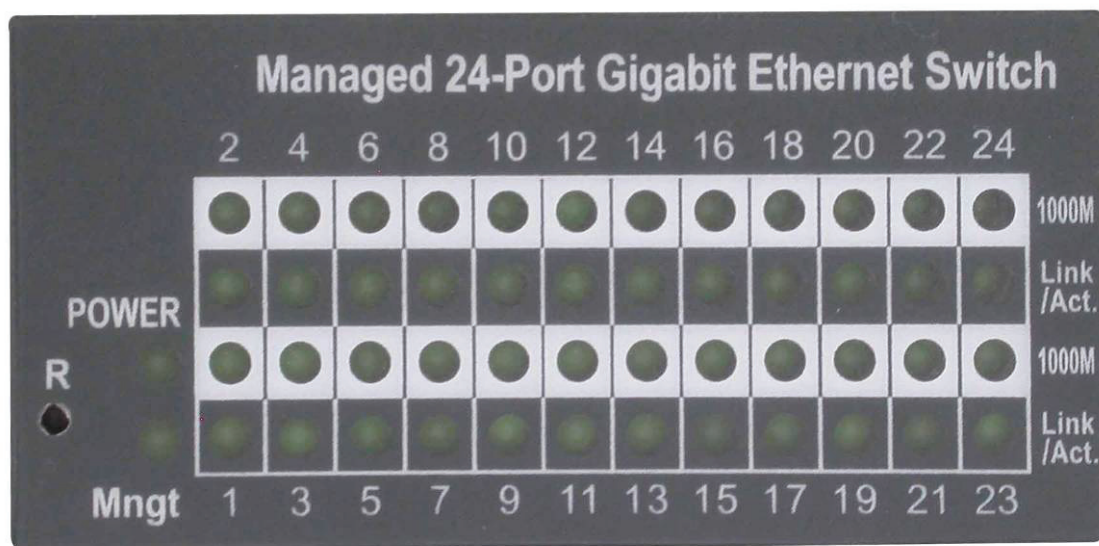
The following figure illustrates an example of fixed Bi-Di (Bi-directional) fiber port with one SC connector.



A Bi-Di port supports single fiber connection. It uses different optical wavelengths for transmitting and receiving data as shown below:



2.13 LED Indications



LED	Function	Color	State	Interpretation
POWER	Power status	Green	ON	The power is supplied to the switch.
			OFF	The power is not supplied to the switch.
Mngt	Management status	Green	OFF	The switch is in initialization and diagnostics.
			BLINK	The switch is initialized completely with diagnostic error.
			ON	The switch is initialized completely and normal.
1000M	Port speed status	Green	ON	1000Mbps is selected
			OFF	100Mbps or 10Mbps is selected.
Link/Act.	Port link status	Green	ON	Port link is established. (No traffic)
			BLINK	Port link is up and there is traffic.
			OFF	Port link is down.

2.14 Making Console Connection

The console port is a DB9 connector. It serves as an RS-232 DTE port.

Pin Definitions

Pin 2 RXD
Pin 3 TXD
Pin 5 GND
Pin 1,4,6-9 NC

Use an RS-232 null modem cable without handshaking to connect the console port to a PC's DB9 COM port as follows:

<u>Console Pins</u>		<u>COM Port Pins</u>	
Pin 2	RXD	Pin 3	TXD
Pin 3	TXD	Pin 2	RXD
Pin 5	GND	Pin 5	GND

Baud Rate Information

Baud rate: 115200

Data bits: 8

Parity: none

Stop bit: 1

Flow control: disabled

3. Managing the Switch

The SG71090 provides the following methods to configure and monitor the switch:

- Making out of band management via RS-232 console port
- Making in-band management via telnet interface over TCP/IP network
- Making in-band management via web interface over TCP/IP network
- Making in-band SNMP management over TCP/IP network

3.1 IP Address & Password

The IP Address is an identification of the switch in a TCP/IP network. Each switch should be designated a new and unique IP address in the network. The switch is shipped with the following factory default settings for software management:

Default IP address of the switch: ***192.168.0.2 / 255.255.255.0***

Fixed Username: ***admin***

No password

The switch uses local authentication instead of RADIUS authentication with factory defaults. No password is required with the factory default. However, the password is used for local authentication in accessing the switch via console, telnet and Http web-based interface. For security reasons, it is recommended that the default settings for the switch be changed before deploying it to your network.

3.2 Configuring IP Address & Password via Web Interface

Start Web Browser

Start your browser software and enter the default IP address to which you want to connect. The IP address is used as a URL for the browser software to search the device.

URL: <http://192.168.0.2/>

Login to the switch

When the browser software connects to the switch successfully, a Login screen is provided for you to login to the device as shown below:



Enter Network Password

Please type your user name and password.

Site: 192.168.0.2

Realm: webstax_domain

User Name:

Password:

☐ Save this password in your password list

OK Cancel

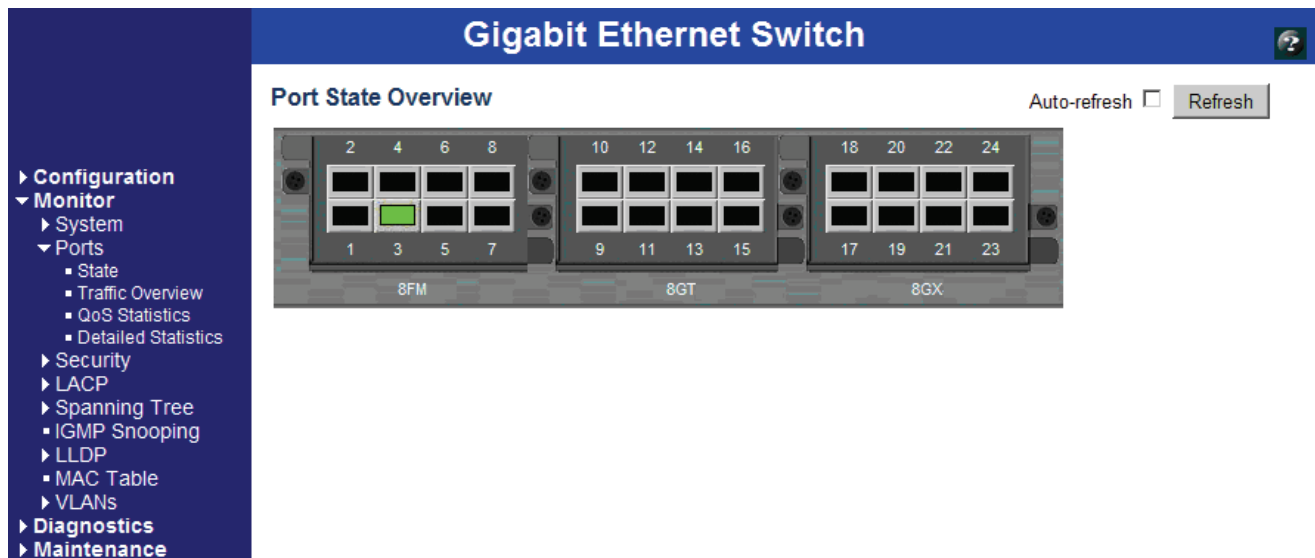
Enter the following default values in the login page:

Fixed User Name: *admin*

Default password: No password is required.

Click **OK** to login into the switch.

The following page is displayed after a successful login:



Gigabit Ethernet Switch

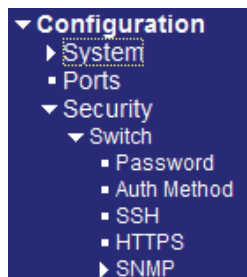
Port State Overview

Auto-refresh ☐ Refresh

2	4	6	8	10	12	14	16	18	20	22	24
1	3	5	7	9	11	13	15	17	19	21	23
8FM				8GT				8GX			

- Configuration
- Monitor
 - System
 - Ports
 - State
 - Traffic Overview
 - QoS Statistics
 - Detailed Statistics
 - Security
 - LACP
 - Spanning Tree
 - IGMP Snooping
 - LLDP
 - MAC Table
 - VLANs
 - Diagnostics
 - Maintenance

Select **[Configuration] -> [Security] -> [Switch] -> [Password]** to configure a new password



- Configuration
 - System
 - Ports
 - Security
 - Switch
 - Password
 - Auth Method
 - SSH
 - HTTPS
 - SNMP

Password configuration web page

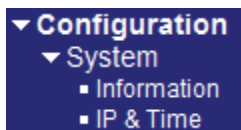
System Password

Old Password	
New Password	
Confirm New Password	

Save

Configuration	Description
Old Password	Enter the current system password. If this is incorrect, the new password will not be set.
New Password	New system password to be used The allowed string length is 0 to 31, and the allowed content is the ASCII characters from 32 to 126.
Confirm New Password	Re-enter the new system password.
Save	Click to save the changes.

Select [Configuration] -> [System] -> [IP & Time] to configure IP address



IP Configuration web page

IP Configuration

	Configured	Current
DHCP Client	☐	Renew
IP Address	192.168.0.171	192.168.0.171
IP Mask	255.255.255.0	255.255.255.0
IP Router	0.0.0.0	0.0.0.0
VLAN ID	1	1
SNTP Server	0.0.0.0	0.0.0.0

Save

Reset

Configuration	Description
DHCP Client	Enable the DHCP client by checking this box.
IP Address	Provide the IP address of this switch unit.
IP Mask	Provide the IP mask of this switch unit.
IP Router	Provide the IP address of the default router for this switch unit.
VLAN ID	Provide the managed VLAN ID. The allowed range is 1 through 4095.
SNTP Server	Provide the IP address of the SNTP Server.
Save	Click to save the changes.
Reset	Click to undo any changes made locally and revert to previously saved values.
Renew	Click to renew DHCP. This button is only available if DHCP is enabled.

Note:

1. *If DHCP fails and the configured IP address is zero, DHCP will retry. If DHCP fails and the configured IP address is non-zero, DHCP will stop and the configured IP settings will be used. The DHCP client will announce the configured System Name as hostname to provide DNS lookup.*
2. *The IP addresses should be in dotted decimal notation.*

3.3 Configuring IP Address & Password via console and telnet

[Password] setting command is in System command group.

>System password <password> ↵

Parameters:

<password>: The allowed password string length is 0 to 31, and the allowed content is the ASCII characters from 32 to 126.

[IP] command group is used to configure the switch's IP settings. The command syntax is:

>IP DHCP [enable|disable]

>IP Setup [<ip_addr>] [<ip_mask>] [<ip_router>] [<vid>]

Parameters:

<ip_addr>: IP address (a.b.c.d), default: Show IP address

<ip_mask>: IP subnet mask (a.b.c.d), default: Show IP mask

<ip_router>: IP router (a.b.c.d), default: Show IP router

<vid>: VLAN ID (1-4095), default: Show VLAN ID

3.4 Reference Manuals for Web, Console, Telnet Management

The following operation manuals are also provided separately for Console, Telnet and Web management:

- SG71090 - Telnet & Console Management Manual
- SG71090 – Web –Based Management Manual

The manuals describe the detailed commands and information.

3.5 Configuration for SNMP Management

The switch supports SNMP v1, SNMP v2c, and SNMP v3 management. Make sure the related settings are well-configured for the switch before you start the SNMP management from an SNMP manager.

Using Telnet Interface

The following commands are available for telnet SNMP to configure SNMP-related settings:

```
>SNMP Configuration
>SNMP Mode [enable|disable]
>SNMP Version [1|2c|3]
>SNMP Read Community [<community>]
>SNMP Write Community [<community>]
>SNMP Trap Mode [enable|disable]
>SNMP Trap Version [1|2c|3]
>SNMP Trap Community [<community>]
>SNMP Trap Destination [<ip_addr_string>]
>SNMP Trap Authentication Failure [enable|disable]
>SNMP Trap Link-up [enable|disable]
>SNMP Trap Inform Mode [enable|disable]
>SNMP Trap Inform Timeout [<timeout>]
>SNMP Trap Inform Retry Times [<retries>]
>SNMP Trap Probe Security Engine ID [enable|disable]
>SNMP Trap Security Engine ID [<engineid>]
>SNMP Trap Security Name [<security_name>]
>SNMP Engine ID [<engineid>]
>SNMP Community Add <community> [<ip_addr>] [<ip_mask>]
```

>SNMP Community Delete <index>
 >SNMP Community Lookup [<index>]
 >SNMP User Add <engineid> <user_name> [MD5|SHA] [<auth_password>] [DES] [<priv_password>]
 >SNMP User Delete <index>
 >SNMP User Changekey <engineid> <user_name> <auth_password> [<priv_password>]
 >SNMP User Lookup [<index>]
 >SNMP Group Add <security_model> <security_name> <group_name>
 >SNMP Group Delete <index>
 >SNMP Group Lookup [<index>]
 >SNMP View Add <view_name> [included|excluded] <oid_subtree>
 >SNMP View Delete <index>
 >SNMP View Lookup [<index>]
 >SNMP Access Add <group_name> <security_model> <security_level> [<read_view_name>] [<write_view_name>]
 >SNMP Access Delete <index>
 >SNMP Access Lookup [<index>]

Using Web Interface



The commands support configuration for:

- Basic system configuration for SNMP v1 and SNMP v2c
- Basic system configuration for SNMP v1 trap, SNMP v2c trap and SNMP v3 trap
- Communities that permit to access to SNMPv3 agent
- USM (User-based Security Model) user table for SNMPv3
- VACM (View-based Access Control Model) Viewer table for SNMPv3
- Group table for SNMPv3
- Accesses group table for SNMPv3

3.6 SNMP MIBs

The switch provides the following SNMP MIBs:

- RFC 1213 MIB II
- RFC 3635 Ethernet-like MIB
- RFC 4188 Bridge MIB
- RFC 3636 802.3 Medium Attachment Units (MAUs) MIB
- RFC 2863 Interface Group MIB using SMI v2
- RFC 4133 Entity MIB v3
- RFC 2933 IGMP MIB
- IEEE 802.3AB LLDP MIB

One product MIB file is also available in the product CD for SNMP manager software.

Appendix A – Duplex Fiber Modules

Model	Speed (Mbps)	Wavelength	Media	Distance	Connector	TX Power	RX Sens	Temp
FEMM	100	850nm	MMF	2km	LC	-10 ~ -4	< -24	0 to 70° C
FE2MM	100	1310nm	MMF	2km	LC	-20 ~ -4	< -31	0 to 70° C
FE10SM	100	1310nm	SMF	10km	LC	-15 ~ -8	< -34	0 to 70° C
GBMM	1000	850nm	MMF	220m(62.5μ) / 550m(50μ)	LC	-9.5 ~ -4	< -18	0 to 70° C
GB2MM	1000	1310nm	MMF	2km	LC	-9 ~ -1	< -19	0 to 70° C
GB10SM	1000	1310nm	MMF / SMF	550m (MM) / 10km (SM)	LC	-9.5 ~ -3	< -20	0 to 70° C
GB20SM	1000	1310nm	SMF	20km	LC	-4 ~ +1	< -24	0 to 70° C
GB40SM	1000	1550nm	SMF	40km	LC	-4 ~ +1	< -24	0 to 70° C
GB70SM	1000	1550nm	SMF	70km	LC	0 ~ +5	< -24	0 to 70° C
GB100SM	1000	1550nm	SMF	100km	LC	0 ~ +5	< -30	0 to 70° C

Appendix A – Single Fiber Modules

Model	Speed (Mbps)	Wavelength	Media	Distance	Connector	TX Power	RX Sens	Temp
GB10SFA	1000	Tx: 1310nm Rx: 1550nm	SMF	10km	LC	-3 ~ -9	< -21	0 to 70° C
GB10SFB	1000	Tx: 1550nm Rx: 1310nm	SMF	10km	LC	-3 ~ -9	< -21	0 to 70° C
GB20SFA	1000	Tx: 1310nm Rx: 1550nm	SMF	20km	LC	-3 ~ -8	< -23	0 to 70° C
GB20SFB	1000	Tx: 1550nm Rx: 1310nm	SMF	20km	LC	-3 ~ -8	< -23	0 to 70° C
GB40SFA	1000	Tx: 1310nm Rx: 1550nm	SMF	40km	LC	-3 ~ +2	< -23	0 to 70° C
GB40SFB	1000	Tx: 1550nm Rx: 1310nm	SMF	40km	LC	-3 ~ +2	< -23	0 to 70° C
GB60SFA	1000	Tx: 1310nm Rx: 1550nm	SMF	60km	LC	0 ~ +5	< -24	0 to 70° C
GB60SFB	1000	Tx: 1550nm Rx: 1310nm	SMF	60km	LC	-2 ~ +4	< -25	0 to 70° C
GB80SFA	1000	Tx: 1310nm Rx: 1550nm	SMF	80km	LC	-2 ~ +3	< -26	0 to 70° C
GB80SFB	1000	Tx: 1550nm Rx: 1310nm	SMF	80km	LC	-2 ~ +3	< -26	0 to 70° C

Note: CWDM (Coarse-Wavelength-Division-Multiplexing) modules are also available upon request.